COTTAGE WINDOWS.

Extracted from the Supplement to Loudon's Cyclopædia of Architecture.

"Windows having been generally among the worst constructed parts of Scotch cottages, the Highland Society offered a premium for the best cottage window, which was awarded to Messrs. M'Culloch and Co. of Glasgow, for the form shewn in figs. 2246. to 2248. This form, of the dimensions shown in the figure, viz., three feet three inches by two feet, without the wooden frame, costs, in cast iron, only 5s., and the glass for such a window may be purchased at 2½d. per square. This kind of window admits of being formed of any size, and is equally adapted for workshops, farm buildings where glass windows are required, and cottages.

The dimensions that have been recommended for the windows of ordinary cottages are, thirty-nine inches for the height, and twenty-four inches for the width, within the wooden frames. The size of glass required for these frames is seven and a quarter inches by five and a quarter inches. The sash is divided into two unequal parts, the lower part having three squares in height, and the upper part two. The lower part is permanently fixed, while the upper part is constructed to turn in the vertical direction on pivots, which are situate in the line of its middle astragal; and both parts are set in a substantial wooden frame, which may be either built in while the wall is erecting, or may be set in afterwards in the ordinary way, with or without checked rabbets (§ 911), according to the taste of the proprietor. The window, and its arrangements, will be better understood by reference to the annexed figures.

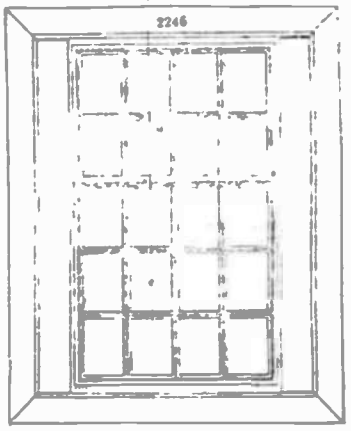
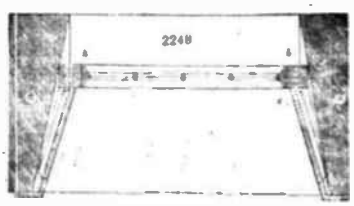


Fig. 2246. is an inside elevation, fig. 2248. a plan, and fig. 2247. a vertical section, in each of which a portion of the wall is exhibited, and the same letters refer to the corresponding parts in each figure; *a* is a portion of the surrounding wall; *b* the wooden frame of the window; *c* the lower sash, which is dormant; and *d* the upper and moveable sash.

In fig. 2247, the upper sash is represented as open for ventilation; when shut, the parts of the opening-sash cover and overlap the fixed parts in such a manner as to exclude wind and water; but when ventilation is required, the arrangement of the parts which produces this is such as to enable the housekeeper to admit air to any extent. For this purpose the notched latch, *e*, is joined to a stud in the edge of the sash; a simple iron pin or stud is also fixed in the wooden frame at *s*, and the notches of the latch being made to fall upon this stud at any required distance, the requisite degree of opening is secured, and when the sash is again closed, the latch falls down parallel with, and close to, the sash. To secure the sashes when shut, the T bolt, *f*, in the middle of the meeting bars, has only to be turned one-fourth round, and the moveable sash is held fast in close contact with the other. The figures represent the window as finished up with single dressings, viz., plain deal shutters, facings, and sole, which, at a small expense, would give an air of neatness and comfort to the apartment, and promote a corresponding taste in the other parts of the cottage. Though the dimensions of the window here stated may be conceived sufficient for lighting an apartment of ordinary size, they can nevertheless be varied to suit every purpose. This may be done either by employing two such windows as above described, with a mullion of wood or stone between them, or the single window may be enlarged by one or two squares in width, or in height, or in both directions." (*Highland Soc. Trans.* vol. xiii. p. 341.)



SUPPLY OF WATER TO NEW YORK.

(*From the Scotsman of Nov. 12, 1842.*)

THE New York papers of 15th October are filled with long accounts of the opening of a stupendous aqueduct of thirty-two miles, for conveying water to that city from the Croton River. The celebration of this event took place on Friday, the 14th, under the direction of the Common Council, and consisted of the largest procession of military companies and civic associations that ever took place in New York. It was between six and seven miles in length.

We omit the account which describes the time and order of the procession, the personages and bodies composing it, the forms and ceremonies gone through, the feastings, illuminations, and rejoicings, and proceed with that part of the account which is more directly to our purpose.

It appears that from 1829 up to the present time, New York was supplied with water from a tank or reservoir erected in Thirteenth street, and filled first by means of horse, and afterwards by steam power. The present work was commenced in 1835, after being approved of by the people by a vote of 17,330 affirmatives to 3,960 negatives. It consists of:—

First, an artificial reservoir, called the Croton River Lake, 45 miles from the Battery—the extreme part of the city; this lake is formed by an hydraulic or dam-masonry dam, with two waste weirs or spoons for the over fall of the water, one of 87 feet, and one of 180 feet, these being separated by a gate-house. The height of the waste weirs is 55 feet above the bed of the river, and 40 feet above the low-water level.

The dam backs the water 5 miles, and makes a lake of an area of 400 acres, and of a capacity equal to 500 millions of gallons.

The water enters a gate-house, where the quantity is regulated before it enters the aqueduct, which is a stone structure, lined and arched with brick.

The face of the interior of the aqueduct is at the bottom an inverted arch, width, 6 ft. 9 in., height 8 feet 5½ inches, area, 53½ square feet, about large enough for an omnibus and four to pass through. The line of the aqueduct being on a regular declivity of 13½ inches to the mile down to the Harlem River, a distance of 33 miles, it has a line of tunnels of 6 ft 11 feet, being sixteen in number, sometimes through earth, and sometimes through solid rock; the deepest cut is 80 feet, and the least 25 feet. In Westchester only, the aqueduct crosses 25 streams of water, which are from 25 to 13 feet below the top of the aqueduct.

The grade line of aqueduct across the Harlem is 25 feet above tide water, and the top of the water now passes over Harlem river in one pipe of 36 inches, placed on the earthen dam made in the construction of the high bridge.

The bridge itself is now about one-third completed, and will be, when finished, one of the most stupendous works of the kind in the world. Its cost is estimated at one million of dollars, and its elevation is so great as not to impede the navigation of the stream. Some idea of this vast undertaking may be formed from the fact, that the excavation for one pier has been carried 34 feet below the surface of the water, and then a rock foundation not having been reached, 240 piles, from 50 to 40 feet long, were driven in for the purpose. Several piers having been already carried, by the aid of coffer-dams, from 4 to 15 feet above high-water mark.

The river is 620 feet wide at water line, but the slope of the river banks adds an additional distance of 830 feet, making in all 1,450 feet.

The plan now in progress crosses the river with eight arches of 40 feet span, and on piers of 31 by 44 feet at the base, resting on the bed of the river, and 7 arches on piers on the land from the edge of the water up the two banks of the river.

The spring of one of the arches is 95 feet above the lowest foundation, but down the top of the parapet will be 147 feet from the lowest foundation. It is intended that the water shall pass over this bridge in pipes, to have it secure against the possibility of danger.

The interesting works at Crandenung Valley being a bridge over a valley of 1,000 feet in breadth, the greatest height of the aqueduct is 50 feet from the bottom of the valley. Beautiful carriage-ways are constructed for three streets 54 feet for the carriage-way, and 10 on each side for side-walks.

Next in interest is the reservoir at Eighty-sixth Street, which might well be called the detaining or clarifying reservoir. It has two divisions, together thirty-two acres—greatest depth of water twenty-five feet containing one hundred and fifty millions of gallons. Two lines of thirty-six inch pipes connect this with the reservoir at Fortieth-street, which has also two divisions, forming together six acres of four acres—depth of water when filled, thirty-six feet. From this point four and a half miles to the Battery. Whole length of line from the Battery to the artificial lake, forty miles. There are in this great work 55,000,000 of bricks and 700,000 cubic yards of stone-masonry.

The water in the aqueduct is regulated at the entrance gate, so as not to flow under any pressure—it has not been permitted to flow in the division near the city at a greater depth than two feet, but the works at the Croton dam required a few days back that more water should pass through the first division (the distance between Sing Sing and the Croton river being eight miles) and it was found to pass seventy-five millions New York gallons in twenty-four hours, and then its velocity was over two miles per hour.

The Croton Lake now retains, beyond the daily river supply, in reserve, five hundred millions of gallons, and a small expense would add other immense artificial lakes to hold back an additional supply; but the necessity of this is hardly contemplated. It is estimated that the London supply, from all their companies, is but twenty-four millions of gallons, and Paris four millions only.

On the 4th of June last the experiments went through the aqueduct (32 miles in length) on foot, and the water being found complete, on the 22nd the water was admitted to the depth of eighteen inches. The Croton Maid, a small boat prepared for the purpose, and holding four persons, was then placed in the aqueduct and navigated its entire length by some of the same party. This novel voyage was made a mile and a-half at the depth of 75 feet below and then again 40 feet above the natural surface of the earth, at the rate of a mile in forty minutes, the velocity of the current when four feet deep, that will probably reach two miles per hour.

On the 27th, the water was admitted into the ornamental receiving reservoir, in the presence of a large assemblage, including the mayor, governor, military, firemen, &c. &c. A salute of thirty-eight guns was fired, and the Croton Maid soon making her appearance, was hailed with great enthusiasm, as the evidence that a navigable stream was now flowing into the city. The boat was then formally presented to the Fire Department and she now lies safely moored in the distributing reservoir. To this basin the stream was admitted on the 4th day of July, amidst general and imposing demonstrations of public joy, the Temperance Societies taking a prominent part.

Since then, the water has continued to flow about two feet deep through the aqueduct delivering into the receiving reservoir twelve millions of imperial gallons per day, and, as yet, only five or six millions

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